

II. AN EXAMINATION OF THE RELATION BETWEEN SYMPTOMS, DISABILITY, AND SERIOUS ILLNESS, IN TWO HOMOGENEOUS GROUPS OF MEN AND WOMEN

Lawrence E. Hinkle, Jr., M.D.; Ruth Redmont; Norman Plummer, F.A.P.H.A.; and Harold G. Wolff, M.D.

IN SPITE OF a great deal of information suggesting that American women have more illness than American men, there has been a reluctance to accept this as an established fact—probably because the death rate for American men is higher at all ages and their life expectancy less. To accept that women are, nevertheless, more ill, would seem tantamount to accepting that the less healthy sex lives the longer, and suggests the unpalatable hypothesis that mortality is inversely proportional to morbidity. Rather than abandon the time-honored medical concept that less healthy people, on the whole, die sooner than healthy people, and that every illness carries with it some risk of death, however small, one is inclined to ask whether or not the evidence will truly support the statement that women have more illness than men and are therefore less healthy.

The evidence that women have more illness has been derived from morbidity surveys of the past three decades. These indicate that women have more episodes of acute illness, and especially more acute respiratory and gastrointestinal illnesses.^{1,2} Although menstrual disturbances account for a significant proportion of their minor episodes of illness, the excess of acute episodes in women remains, even if the disorders of the female genital tract are excluded entirely.¹⁻⁵ In addition to this, women have more days of disability because of acute illness and make more visits per unit time to the doctor.⁶ Industries

which employ them find, with few exceptions, that women have more episodes of sickness absence per unit time and are absent from work a greater number of days. Women report more episodes of illness than men and look upon themselves as having more illness.

Yet this evidence is not entirely conclusive. The respondents in household morbidity surveys are, in the main, housewives who report the illnesses of other members of their families as well as their own illnesses.^{3,5,6} This raises the possibility that these female respondents remember more of their own illnesses and are aware of minor symptomatic disturbances in themselves that they might not know about in others. This possibility has been present even in ongoing studies of families, where the mother has usually been chosen as the respondent.⁷ The supposition that it is true is strengthened by the fact that the excess of illness reported for women is largely made up of minor illnesses and seems to be largely confined to women between the ages of 15 and 65.² Young girls and older women (who do not report for themselves) appear to experience illness at about the same rate as men of similar age. Although the Commission on Chronic Illness found on examination that chronic illness was more prevalent among women than among men, the difference in prevalence reported from the "Baltimore Study" can be accounted for by the difference in the reported prevalence of psychoneuroses, "psychophysiologic, autonomic

and visceral disorders," migraine, obesity, and the disturbances of menstruation which make up most of the category of "other diseases of the female genital organs."⁵ Except for obesity, all of these illnesses are diagnosed largely on the basis of symptoms reported by the respondent. Furthermore, since going to the doctor, staying home from work, and staying in bed because of minor illness are all to a certain extent subject to the will and attitude of the individual, these too may not be true indicators of a difference in the amount of illness experienced. Thus, the evidence that women have more illness than men remains presumptive. Even the fact that women consider themselves to have more illness is not conclusive evidence that they develop more pathological and physiological disturbances per unit time.

There is also evidence to the contrary. As stated, the death rate for men at all ages is higher for almost all categories of disease except diabetes mellitus and cancer of the breast and genitalia.⁸ Whereas women have more days of disability for acute illness, men of comparable age have been reported to have more days of disability for chronic illness.² The number of men in hospitals in the United States in 1953 was reported on survey to be greater in every age group—despite the fact that approximately one-sixth of all hospital admissions were for normal childbirth.⁹ In the hospitals of New York City a survey carried out in 1952 revealed that men comprised 57 per cent of all patients having diseases that are not sex specific and 55 per cent of all patients other than obstetrical patients, even though the population of the city was only 48 per cent male at that time.¹⁰ Both of these observations suggest that serious illness is at least as common in men as in women, if not more common.

An opportunity to obtain additional information bearing on this problem

has been presented by some of the studies carried out by the Human Ecology Study Program at the New York Hospital-Cornell Medical Center. Of particular relevance are the results of studies of the occurrence of illness in comparable groups of men and women, existing in comparable environments, over comparable ages. Some results of two such studies, which were carried out with the cooperation and sponsorship of the Medical Department of the New York Telephone Company, are presented here.

Methods

The subjects for these studies were 96 telephone operators and 116 craftsmen of the New York Telephone Company, who worked in New York City. The two groups are random samples of all of the male and female employees of one operating division of this company and represent approximately one-third of all of the women and one-sixth of all of the men who had been continuously employed for 20 or more years on a specific calendar day. The members of both groups had the following characteristics: (1) All had been subjected to a medical history and examination at the time of first employment, and none had shown evidence of significant illness at this time; (2) All had been continuously employed in an occupation with no significant intrinsic hazards; (3) All lived in the same geographic area and shared, over a period of two decades, the same level of sanitation in their environment and generally similar opportunities for exposure to the pathogens present in the population at large; and (4) All were of essentially similar social and economic background and occupied a similar social and economic position during the period of their employment.

There were complete records of the health and of the attendance at work of

each of these people over the entire period of his employment, with a notation of every absence of whatever length attributed to illness, the name of the illness which allegedly caused the absence, its date and its duration. All illnesses of eight days or more were also described in some detail in medical records, with reports of company physicians, private physicians, and hospitals. In addition, approximately one-fifth of all illness that led to shorter absences (which, during most of the employee's service, were at his own expense) were similarly described in medical as well as personnel records. Furthermore, complete medical examinations and medical histories were carried out from time to time throughout an employee's working career for various reasons. There was, therefore, an essentially complete record of all of the disabling illnesses, as well as of all of the illnesses detected on periodic medical history and examination, over the employee's entire period of service.

All members of both groups were studied retrospectively, by their records, over a 20-year period beginning with first employment and, prospectively, with both records and observations, over a five-year period from the end of the initial 20-year study. The total observation period, therefore, was 25 years. For the women, this in general extended from age 17 to age 42; for the men it extended from age 20 to age 45.

Since the groups were selected after they had completed 20 years of service, each represented the residuum of a cohort of men or women employed 20 years before. From the company's records it was ascertained that 90 per cent (± 5 per cent) of men originally employed remained on the payroll 20 years later, and that only approximately 1 per cent of an original cohort had been lost during the first 20 years because of illness, or disability. It was

also ascertained that of a group of women originally hired, only 10 per cent remained on the payroll 20 years later, the vast majority having resigned within the first ten years because of marriage or other personal reasons. Of those remaining, a disproportionate number were single women, widows, and divorcees. Approximately 2 per cent of an original cohort of women were lost to the group for reasons attributed to health; however, in all but a few of these cases, there was no significant illness present on examination, and the reasons given were that the women thought the job "made them nervous" or was "too much for them." Thus the evidence suggests strongly that these two samples of 20-year employees represent neither unusually healthy, nor unusually unhealthy, members of the original cohorts of which they were the remaining individuals.

For the purposes of these studies, an illness was defined as "any departure from an ideal state of health, regardless of its nature or etiology"; and an "episode of illness" was defined as "the presence of a syndrome over a discrete period of time."

Results

1. Episodes of Illness Recorded

Over a 20-year period, from age 17 to 37, the mean number of episodes of illness recorded per woman was 48.688 ± 3.514 ,* or 2.434 episodes per woman per year. Over a 20-year period, from age 20 to 40, the mean number of episodes of illness recorded per man was 28.026 ± 1.370 or 1.401 episodes per man per year. These are the means of distributions which are notably skewed and which depart significantly from normal distribution; however, if we make the probably valid assumption that the means themselves

* Variation is expressed as the standard error of the mean.

are normally distributed, then it can be said that these means are significantly different (P less than 0.01). In other words, it can be stated with a fairly high degree of assurance that these women did have more episodes of illness recorded per unit time than did the men.

During the five-year follow-up period (from age 37 to 42), the mean number of episodes recorded per woman was 15.698 ± 1.094 , or 3.14 episodes per year; the mean number of episodes recorded per man, during a similar five-year follow-up, from age 40 to 45, was 9.250 ± 0.650 , or 1.85 episodes per year. These means also are significantly different.

2. Days of Disability

Over the initial 20-year period the mean number of days of disability (days of sickness absence) per woman was 210.47 ± 18.94 , or 10.5 per woman per year; during the next five years the mean was 102.41 ± 11.07 , or 20.5 per woman per year. During the initial 20-year period, the mean number of days of sickness absence per man was 85.95 ± 5.77 , or 4.30 per man per year; during the next five years, the mean was 37.92 ± 4.30 , or 7.6 days per man per year. These means also are significantly different. Therefore, it can also be said with assurance that the women did experience more days of sickness absence per unit time than did the men.

3. Nature of the Illness Experienced

The recorded description of every episode of illness experienced by one of these men or women over the 25-year period was scrutinized by a physician; and on the basis of the information supplied, each episode was described as accurately as possible by the name of the syndrome that it represented and was placed in one of 19 categories, which corresponded, in general, to the

Table 1—Illness Recorded Over 20 Years

Categories of Illness (Organ Systems)	Episodes per 100 Persons per Year	
	Men	Women
1. Generalized illnesses	0.60	0.47
2. Respiratory	68.70	98.96
3. Gastrointestinal	27.58	47.84
4. Hepatic	0.09	0.00
5. Biliary and pancreatic	0.22	1.09
6. Genitourinary	0.69	16.64
7. Cardiovascular	0.99	0.47
8. Hemic and lymphatic	0.00	0.42
9. Metabolic and endocrine	1.03	3.28
10. Articular and skeletal	2.70	2.03
11. Muscular	7.82	16.43
12. Dermal	9.26	16.49
13. Cranial	1.51	8.89
14. Aural	2.10	2.81
15. Ophthalmic	5.90	4.99
16. Dental	8.53	9.83
17. Neural	0.04	0.20
18. Mood, thought, behavior	1.59	7.38
19. Congenital conditions and sequelae	1.55	0.15
Total	140.90	238.17

organ system in which the major manifestations of the episode occurred. When this information had been tabulated, the number of episodes occurring in each "organ system" was expressed as a rate, "episodes per 100 persons per year." These data are summarized in Table 1, which covers the first 20 years of observation.

For both men and women, the episodes of illness most frequently recorded were those whose major manifestations occurred in the respiratory and gastrointestinal tracts, the muscular system, the skin, the eyes, and the teeth. Three categories of illness were recorded frequently in women and infrequently in men: headache; syndromes involving the genital tract; and disturbances of

mood, thought, and behavior. Inspection of Table 1 reveals that the difference in the recorded incidence of illness between the women and the men can be almost entirely explained by the difference in the number of episodes of illness attributed to the respiratory, gastrointestinal, genital, and muscular systems, the skin, and the head, and disturbances of mood, thought, and behavior. More specifically, the difference in the incidence of illness recorded for the men and women is almost entirely attributable to a dozen or more syndromes, to wit: the common cold; "grippe"; "sore throat"; acute gastroenteritis; dysmenorrhea; "myalgia"; "myositis" and symptoms of muscle tension; minor cuts and bruises; headaches; and minor disturbances of mood, thought, and behavior (brief episodes of tension, anxiety, asthenia, and depression). These data are summarized in Table 2.

4. Severity and Seriousness

In the study of illness, it is helpful to give separate consideration to two aspects of disease which are closely related but not necessarily parallel: "severity," and its "seriousness." The "severity" of an episode of illness is roughly parallel to the amount of prostration that it causes; its "seriousness"

is roughly parallel to the likelihood that it, or its sequelae, will result in the death of the person who manifests it. Meningococcus meningitis, for example, is a disease that is both very severe and very serious, while orthostatic albuminuria is a syndrome of very little severity and very little seriousness. Here "severity" and "seriousness" are roughly parallel, but in many cases they are not. A severe migraine headache is extremely prostrating, but quite unlikely to be fatal, whereas hypertensive vascular disease may produce little or no disability in its early stages but is nevertheless a most serious illness from the point of view of the ultimate longevity of the patient. The divergence between the severity and the seriousness of a given syndrome is usually not so extreme as this, but it is quite common that the two do not precisely coincide. It thus becomes important to have separate measures of these two aspects of illness, one of which is intimately connected with disability and the other with mortality.

In dealing with this, we adopted the device of defining the "seriousness" of an episode of illness as "the likelihood that this episode of illness, or its sequelae, if untreated, will lead to the death of the subject." The likelihood of death from a given episode of illness

Table 2—Major Sources of the Difference in Rates

Syndromes	Episodes per 100 Persons per Year		
	Men	Women	Difference
Rate for all syndromes	140.90	238.17	97.27
Common cold, "grippe," and "sore throat"	64.22	88.45	24.23
Acute gastroenteritis	21.64	48.31	26.67
Dysmenorrhea	0.00	15.24	15.24
"Myalgia" and "myositis"	7.83	16.34	8.51
Minor abrasions, contusions, and lacerations	0.22	8.10	7.88
Headaches	1.51	8.89	7.38
Minor episodes of anxiety, tension, or other mood disturbance	1.42	5.98	4.56
Differences in rates for these syndromes			94.47

Table 3—The Scale of “Seriousness”

“Seriousness” Rating of Illness	Probability That an Episode Will Be Fatal if Untreated
1	$P < 1:10,000$
2	$1:1,000 > P > 1:10,000$
3	$1:100 > P > 1:1,000$
4	$1:10 > P > 1:100$
5	$P > 1:10$

is regarded as being indicated by that proportion of similar episodes of illness that would lead to death, if an infinite sample of such illness episodes were taken. This in turn is regarded as being closely proportional to the reported case fatality rate for untreated cases and their sequelae. Case fatality rates, expressed as probabilities, run from 1.0 (100 per cent fatal) to 0.0 (never fatal). The available figures are not exact, and are conveniently expressed as negative whole powers of ten, i.e., case fatality rates between 10 per cent and 100 per cent (between 0.1 and 0.999) can be expressed as 10^{-1} , those between 1 per cent and 9.99 per cent as 10^{-2} , and so on. For the sake of convenience, a scale of “seriousness” was set up based upon the reciprocals of these negative powers of ten, as shown in Table 3. By this scale, lobar pneumonia, or malignant melanoma, with case fatality rates of greater than 10 per cent were assigned a “seriousness” of five, while the common cold and the common vascular headache, which are fatal in less than one in 10,000 cases, are assigned a “seriousness” of one. The system fails to some extent because published case fatality rates are not available for many diseases, and for these estimated rates must be used. Fortunately, most of the diseases for which published rates are not available are diseases of little seriousness, and usable estimates of case fatality rates are available for most of

the serious illnesses. Because “seriousness ratings” from one to five represent powers of ten, accuracy in estimating the rates for the more serious illnesses far outweighs the effect of any inaccuracy in estimating the rates for those that are less serious.

Using this method of rating, every episode of illness that occurred among both the women and the men was rated for “seriousness.” This “seriousness rating,” as an appropriate power of ten, was then multiplied by the incidence (as episodes per 100 persons per year) of such episodes over the 20-year period. Such figures were derived for each type of episode and were then summed. This yielded the value 1,623.60 for the men and 1,190.46 for the women. These two values, obtained by multiplying the annual incidence of each syndrome by its seriousness, are proportional to the average likelihood that a man or woman would die in a given year because of the illnesses experienced. These “annual seriousness rates,” as they might be called, are summarized in Table 4. They indicate that the men were somewhat more likely to die of their illnesses than the women, in a ratio of about 4:3—a ratio quite similar to the ratio of the reported death rates for white men and women over the age period 15 to 44 in 1949, when the first 20-year observation period was ending (7.4/1,000 for men and 4.5/1,000 for women). This procedure also locates the excess in the risk of death among men at the point where mortality figures indicate that it probably lies: in the occurrence of cardiovascular syndromes, which, although not of high incidence as compared to respiratory syndromes, are nevertheless highly lethal.

This method of computing “seriousness,” therefore, indicates that although the women reported a greater number of illnesses, the men incurred a greater risk of death from the illnesses that they are known to have experienced. A

Table 4—Annual Risk of Death: Incidence of Illnesses Experienced Multiplied by Their Seriousness

Categories of Illness	Men	Women
1. Generalized illnesses	152.272	73.994
2. Respiratory	653.849	452.903
3. Gastrointestinal	128.686	104.186
4. Hepatic	21.550	76.440
5. Biliary and pancreatic	8.620	0.000
6. Genitourinary	133.623	165.468
7. Cardiovascular	392.460	52.135
8. Hemic and lymphatic	0.000	3.224
9. Metabolic and endocrine	90.557	34.953
10. Articular and skeletal	9.030	50.700
11. Muscular	0.782	3.702
12. Dermal	19.319	19.592
13. Cranial	0.151	0.889
14. Aural	1.684	1.029
15. Ophthalmic	2.335	2.043
16. Dental	1.823	2.107
17. Neural	0.043	0.000
18. Mood, thought, behavior	5.745	147.082
19. Congenital conditions, and sequelae	1.076	0.015
Total	1,623.605	1,190.462

somewhat simpler way of illustrating this is to list for each group all of the recorded episodes of illness for which the case fatality rate would be 10 per cent or greater if the disease were untreated (Table 5). There was a higher incidence of such illnesses among the men. The fact that no fatalities occurred in either group is a tribute to the efficacy of modern medical therapy.

In order to estimate the "severity" of illnesses, "severity" was defined as "the degree of disability which an episode of illness produces," and "disability" was defined as "the extent to which a person is unable to carry out

his full social role and maintain his normal bodily functions" because of disease or its sequelae. Five grades of "severity" were recognized (Table 6).

Since "inability to work because of illness" is tantamount among working people to "inability to carry out one's usual activities," and since an illness which produced disability of this grade was considered to be of grade 4, it is obvious on the face of it that by this definition illness among the women was more "severe" than among the men—for the women had significantly more episodes of disabling illness and more days of sickness absence than the men.

However, the disability produced by illness is not solely a function of the bodily disturbance that illness creates; the extent to which an ill person con-

Table 5—The Incidence of Illnesses of "Seriousness Grade 5"

	Episodes	Persons
<u>Men</u>		
Sepsis with bacteremia ("septicemia")	3	3
Pneumococcal pneumonia ("lobar")	11	10
Bronchiectasis	1	1
Pulmonary tuberculosis	2	2
Glomerulonephritis	1	1
Pyelonephritis	1	1
Perinephric abscess	1	1
Hypertensive cardiovascular disease	5	5
Arteriosclerotic heart disease	2	2
Diabetes mellitus	2	2
Incidence per 100 persons per 20 years		25.06
<u>Women</u>		
Pneumococcal pneumonia ("lobar")	6	6
Pulmonary tuberculosis	1	1
Pyelonephritis	1	1
Arteriosclerotic heart disease	1	1
Incidence per 100 persons per 20 years		9.37

Table 6—The Scale of “Severity”

“Severity” Rating of Illness	Characteristics
1.	<p>Illnesses associated with a definite abnormality of cells or metabolic systems, but not seriously impairing the function of any organ system.</p> <p>Examples: Orthostatic albuminuria; late latent lues, manifested only by seropositivity; small benign naevus.</p>
2.	<p>Illnesses associated with a definite impairment of one or more organ systems, but having little or no effect upon the capacity of the individual to carry out his usual activities.</p> <p>Examples: Functional constipation; moderate grades of obesity; early stages of hypertensive vascular disease.</p>
3.	<p>Illnesses which seriously impair the function of one or more organ systems, but which have little effect on the highest integrative functions, so that the individual may carry out his usual activities, but in a somewhat restricted manner.</p> <p>Examples: Many episodes of active peptic ulcer; diabetes mellitus; hypertensive cardiovascular disease; the common cold; vascular headache.</p>
4.	<p>Illnesses which prevent an individual from carrying out his usual activities, but do not prevent all other activities.</p> <p>Examples: Measles; fracture of ankle; moderately severe anxiety state; many episodes of the common cold or dysmenorrhea; any disease which causes absence from work or “bed disability.”</p>
5.	<p>Illnesses which severely impair the highest integrative functions, and make it impossible for the individual to carry out any activities other than those directly associated with survival.</p> <p>Examples: Meningococcus meningitis; hepatic coma; typhoid; catatonic schizophrenia.</p>

tinues to carry out his usual activities is significantly influenced by his mental state—by his attitudes, beliefs, moods, and motivations. These may be crucial in determining whether or not a person with a given amount of bodily disturbance will come to work or stay home in bed. Therefore, the observation that the

severity of illness was greater among the women does not allow one to say whether or not the excess of “severity” was a result of an excess of bodily disturbance caused by illness or the result of a different attitude toward the necessity of coming to work. It was supposed that some indication of the extent of bodily disturbance in the two groups might be estimated by comparing the number of episodes of severity grade 5—those episodes of illness known to have been “totally prostrating” during part of their course. Unfortunately, this device failed, largely because of the frequent occurrence among the women of prostrating illnesses less often or never reported among the men. Notable among these were acute gastroenteritis and dysmenorrhea. It is well known that acute gastroenteritis is sometimes totally incapacitating for short periods of time; since the women reported more episodes of this syndrome, it is difficult to deny that they were more frequently prostrated by it, even if one cannot prove that they were. As for dysmenorrhea, to the observing physician it did often appear to be totally incapacitating; whether it would have been equally incapacitating had it occurred among the men is a question more easily debated than answered.

Comment

These women reported more episodes of illness than the men did, and the illness that they reported was bona fide illness. Almost without exception, when a woman was examined she was found to have some symptoms and signs of illness. However, one cannot necessarily conclude from this that the women “actually experienced” more disturbances of bodily function than the men did. This question cannot be finally resolved from these data; it is worthy of note, however, that the excess of illness observed among the women consisted

almost entirely of colds, grippe, sore throat, acute gastroenteritis, dysmenorrhea, muscular pains, minor cuts and bruises, headaches, and minor disturbances of mood, thought, and behavior. Possibly the men experienced an equal number of such illnesses (except, of course, dysmenorrhea), and simply did not report them to the doctor and did not stay away from work because of them. This was the prevailing belief among those who supervised the two groups and among the company's physicians. Indeed, there is much to commend it from a theoretical point of view. For, one may ask, if these women did actually have more colds, grippe, sore throats, and acute gastroenteritis, why did they not have a similar excess of influenza, pneumococcus pneumonia, pulmonary tuberculosis, cellulitis, bacteremia, and other viral and bacterial diseases? Furthermore, it is hard to believe that telephone operators, whose work is sedentary and almost totally without exposure to trauma, nevertheless experience more minor lacerations and abrasions than do the craftsmen who install and repair telephone equipment.

One suspects, rather, that if a girl slammed a door on her finger, she was simply more likely to stop in and let the doctor have a look at it. After carefully scrutinizing the records of these people, and observing them and their illnesses as they went about their daily lives, one came away with the impression that the only "minor" illnesses (the incidence of which was significantly higher among the women) were minor episodes of tension, anxiety, asthenia, and depression. These were quite common among the women—more common, even, than the records indicate, for women were inclined not to mention this aspect of their symptomatology. They were rather rare among the men. The difference may be partly due to temperamental differences between men and women—for it has al-

ways been the opinion of men that women were more given to outward expression of their emotions. However, this difference in emotional display may also be connected with the social determinants which went into deciding that the women who would pursue this career for 25 years would include many who were single, widowed, and divorced, and subject to all of the disappointments, frustrations, and responsibilities that these added to their domestic lives.

Were these women "less healthy" than the men? The answer to this depends upon what one means by "less healthy." The women were more frequently disabled, and disabled more of the time. In this sense they were "less healthy." But, on the other hand, they incurred less risk of death because of their illnesses. In this sense, they were a good deal more healthy than the men—as the national mortality statistics indicate them to be. Perhaps it would be most accurate not to use the term "healthier," but to say that they were more easily incapacitated, but harder.

To what extent is the excess of morbidity and disability among these young adult American women the result of culturally and socially determined attitudes? From these studies one gains the impression that it may be almost wholly so. In the United States at the present time it is tacitly accepted that women will be more expressive about their aches and pains and their minor emotions. Discomforts and bodily disturbances that are regarded as unworthy of mention among men are looked upon as acceptable causes of disability among women. Women as well as men are rewarded by approval if they "carry on" without complaint and without seeking special favor; a woman, however, encounters fewer sanctions and less disapproval if she unfeignedly takes to her bed when she feels ill and goes to her doctor for treatment and reassurance when she is worried about her health.

One is led to wonder whether the tendency of the American male to "carry on no matter what," may not, indeed, have something to do with the greater longevity among women, even among nuns as compared to priests.¹¹ There is no easy answer to this speculation, however.

Summary

1. 116 men and 96 women, comparable in age, ethnic and social background, occupation, social and economic position, exposure to infection and trauma, place of domicile, and method of observation, were studied over a 25-year period (including five years of prospective observation), with regard to the nature and duration of every episode of disabling illness that occurred among them.

2. The incidence of disabling illness among the women was significantly higher than among the men; however, the difference in incidence was almost entirely accounted for by a higher incidence of colds, "grippe," pharyngitis, acute gastroenteritis, dysmenorrhea, muscular pains, minor cuts and bruises, headaches, and minor episodes of tension, anxiety, asthenia, or depression.

3. The women were disabled more frequently, and for a greater proportion of the time, than the men.

4. The incidence of serious, life-endangering illnesses was somewhat higher among the men. An analysis of the risk of death among the two groups, based upon expected case fatality rates of the illnesses experienced, led to an

estimate that, over a 20-year period, the men experienced a risk of death from illness greater than that of the women, in a ratio of approximately 4 to 3.

5. It seems very likely that the higher incidence of illness reported by the women, the greater amount of disability that they experienced, and the greater number of visits that they made to the doctor, were largely the result of culturally determined differences in the attitudes toward what constitutes illness and what creates an acceptable reason for disability in men and in women.

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The authors are associated with the Human Ecology Study Program of the New York Hospital-Cornell Medical Center and the Departments of Medicine and Psychiatry of Cornell University Medical College, New York, N. Y.

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